

Worldwide evidence of the link between inequalities in education and cognitive functioning of older adults

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A recent article published in *Economics & Human Biology* by LISER and UniLu researchers (J. Olivera, F. Andreoli, A. K. Leist and L. Chauvel) documents the persistent effects of educational inequalities suffered in the past on the differences of cognitive functioning observed today among the older adults in 29 countries. Intact cognitive functioning in old age refers to attention, thinking, understanding, learning, decision-making and problem solving. At older ages, higher starting levels of cognitive functioning are even more important, as processes of cognitive aging lead to declines in cognitive functioning. From an economic perspective, cognitive abilities are an indicator of accumulated human capital that depreciates over time.

Though many studies have focused on measuring the level of [cognitive functioning](#) and its determinants, little is known regarding the inequalities in [cognitive](#) functioning in old age. However, the degree and determinants of old age cognitive inequalities may provide important information for public health and policymaking efforts. The distribution of cognitive functioning in old age may reflect undeveloped potential for cognitive functioning due to early-life educational inequalities and lack of educational opportunities. Therefore, high inequality in old age cognition may be associated with low average levels of old age cognition. Given the high costs of [cognitive impairment](#) and its importance for health expenditures, it is expected that high inequality of cognitive functioning may undermine the sustainability of healthcare.

In a broader perspective, inequality of old age cognition can be related as well to the distribution of wellbeing among old people. In fact, cognitive functioning may determine key dimensions for this population group, such as autonomy, mental health, and planning ability, among others. Educational inequalities have been shown to have long-run consequences on hampering equality of opportunity for accumulation of resources over the life course.

The study utilises all publicly available and representative old age surveys with comparable information to assess inequalities of cognitive functioning in 29 countries. The study considers different measures of cognitive functioning that are well regarded as indicators of [cognitive performance](#) of elderly individuals. One of those is the 'delayed recall memory' which is the number of correctly recalled words of a 10-word list that was previously read out by the interviewer. It is found that a one percentage point increase in the Gini index of past education is associated with an increase of 0.45 percentage points in the Gini index of delayed memory. This means that almost half of the inequality in old age cognition can be explained by educational inequalities experienced in the past.

It is well known that inequality of opportunity arises when individual circumstances, such as parental education or gender, affect the level of educational attainment and hence the level of inequality in education. A very relevant result of this study is the finding that unequal opportunities for education -captured by differences in parental background and gender- also have significant and persistent effects on [inequality](#) of old age cognition.

More information: Javier Olivera et al. Inequality in old age cognition across the world, *Economics & Human Biology* (2018). [DOI: 10.1016/j.ehb.2018.03.002](https://doi.org/10.1016/j.ehb.2018.03.002)

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